REMARKS

This amendment is responsive to the Office Action of December 1, 2004. Reconsideration and allowance of the claims are requested.

The Office Action

The disclosure has been objected to because of informalities.

Claims 1-18 stand rejected under 35 U.S.C. §102(e) as being anticipated by Wood, et al. (WO 02/056240).

Claim 1 stands rejected under 35 U.S.C. §102(e) as being anticipated by McKinnon (US 6,591,127).

Claims 1 and 6 stand rejected under 35 U.S.C. §102(e) as being anticipated by He, et al. (US 6,275,562).

Claims 1-9 and 12-18 stand rejected under 35 U.S.C. §102(e) as being anticipated by Slack (US 6,487,432).

The Specification

The specification has been amended to address the objection thereto. Accordingly, Applicants respectfully request that the objection now be withdrawn.

The Present Application

The present application is directed to a system and/or method of reviewing already reconstructed tomographic scans or image slices. Particularly, it is concerned with the amount of time it takes for a radiologist to review the large number of images that can be generated during a whole body or extended body scan. In the present application, all of the thin slices are reconstructed individually to create a volume image representation. For display purposes, a selected number of adjacent scans or thin slices are combined to make a single thick slice and/or scan. The radiologist can then quickly review the thick slices which are relatively fewer in number than all the thin scans. When a particular thick slice reveals something of probable interest to the radiologist, a simple selection of that thick slice brings up the corresponding thin slices from which it was constructed. Being that the thin slices had

been reconstructed previously, they can be readily recalled without expending additional processing time and/or resources on reconstruction.

The Claims Distinguish Patentably Over the References of Record

The rejection of the claims based on Wood, et al. (WO 02/056240) is hereby traversed. Importantly, Wood, et al. is **NOT** prior art with respect to the present application. In accordance with 35 U.S.C. §102(e), an international application filed under the Patent Cooperation Treaty (such as Wood, et al.) "shall have the effects for the purposes of this subsection of an application filed in the United States **ONLY** if the international application designated the United States." Wood, et al. has not designated the United States. See the list of "Designated States" on the front page of the publication (i.e., item **(81)**). Accordingly, it does not have the effect of an application filed in the United States. Therefore, it is not properly applied under 35 U.S.C. §102(e). That is to say, it does not qualify as prior art relating back to its international filing date or any priority date. Rather, it can only be applied under §102(a) and/or §102(b) as of its publication date (i.e., 18 July 2002), which in this case is after the filing date of the current application (i.e., November 21, 2001).

For further guidance and/or authority on this point, the Examiner's attention is directed to MPEP §706.02(f)(1)(III), "Chart II: For WIPO publication of International Applications."

The rejection of claim 1 based on McKinnon is also traversed. Claim 1 recites "imaging apparatus obtaining a plurality of first image slices of the subject, said first image slices having a first resolution" and "a data processor which combines subsets of first image slices to generate a plurality of second image slices having a second resolution lower than the first resolution, said subsets each including a number n of contiguous first image slices." McKinnon fails to teach the foregoing features. For example, nowhere does McKinnon disclose that a second image slice is constructed from a subset of first image slices (plural) such that the second image slice has a lower resolution than the first image slices. In fact, McKinnon fails to even mention the relative resolution of any slices. McKinnon merely combines two images obtained from different modalities. Moreover, the two images combined in McKinnon are from the same slice, they are not a number of contiguous slices. That is to say, the

combined slices overlap one another rather than neighbor one another. This is contrary to the claimed combined subset of first images which includes a number of "contiguous" image slices. Finally, the resolution for the combined image slice as proposed by McKinnon would in all likelihood be the same as that of the separate image slices, absent some additional manipulation. Nowhere does McKinnon suggest otherwise or teach the additional manipulation that would result in the combined slice having a resolution less than the two slices which were combined.

The rejection of claims 1 and 6 based on He, et al. is traversed. Notably, He, et al. proposes generating initial image data with thicker slices and later, if potential diagnoses suggests, retrospectively reconstructing the data into thinner slices. This is the opposite of what the present application does. He, et al. reconstructs the data into thick slices and later reconstructs that data again, if necessary, into thin slices. That is to say, at the time the thin slices are demanded or required, they still need to be reconstructed. By distinction, the present application reconstructs thin slices initially and combines such thin slices to create thick slices which are initially displayed. This provides for quick initial review of the relatively fewer thick slices, while providing ready recall of the thin slices upon demand, i.e., without expending additional time and/or resources to reconstruct the thin slices since they had already been reconstructed.

The rejection of claims 1-9 and 12-18 based on Slack is also traversed. For example, claim 1 calls for a data processor which combines subsets of first image slices having a first resolution to generate a plurality of second image slices having a second resolution lower than the first resolution. Slack teaches no such feature. Rather, Slack is directed to acquiring and reconstructing a 3D volume of image data. Accordingly, slices through the 3D volume of image data at various view orientations can selectively be displayed. However, nowhere are image slices combined or merged together to from another image slice. This is neither explicitly taught nor fairly suggested. At best, it could be said that Slack stacks slices next to one another to create a 3D volume. This is not the same as combining or merging slices to achieve yet another slice. Likewise, claim 6 calls for combining means for generating a plurality of second image slices from combined subsets of first image slices. Slack simply fails to teach this feature.

Claim 15 recites "obtaining a plurality of first 2D images of a subject, said first images representing a plurality of contiguous slices of a first thickness" and "generating a plurality of second 2D images from subsets of the first images by merging together the first images in each subset." Slack does not teach merging 2D images together with one another to obtain another 2D image. Claim 15 also recites that the second images represent slices of a second thickness which is greater than the first thickness of the first slices. Applicants can find no passage in the disclosure where Slack even mentions slice thickness or different thicknesses, let alone that a second image (obtain from merging image slices representing a first thickness) represents a slice of a greater thickness. Furthermore, claim 15 calls for "sequentially displaying the second images for review by the reviewer" and "displaying the first images for review by the reviewer" when a designated region is reached. Slack does not teach this aspect. There is simply no mention in Slack of sequentially displaying any second image which is the result of merging together first images, nor is there any mention of displaying the corresponding first images when a designated region in the second image is reached.

Accordingly, it is respectfully submitted that claims 1, 6 and 15 define patentably over Slack, along with claims 2-5, 7-9, 12-14 and 16-18 that depend therefrom respectively.

New claim 19 recites a diagnostic medical imaging system including: an imaging apparatus having an examination region in which a subject being examined is positioned, the imaging apparatus obtaining a plurality of first 2D images of the subject, the plurality of first images corresponding to a plurality of first cross-section slices of the subject, the first slices each representing a first thickness; a storage device into which the first images are loaded; a data processor which groups the plurality of first images into a plurality of subsets and merges the first images in each subset together with one another to generate a plurality of second 2D images, the plurality of second images corresponding to a plurality of second cross-section slices of the subject, the second slices each representing a second thickness that is thicker than the first thickness, the first images being grouped such that each subset includes a plurality of first images corresponding to neighboring first slices; and, a display that selectively displays 2D images, whereby during a successive display of the plurality

of second images on the display, a selection of a particular second image causes one or more of the first images which are constituents of the selected second image to be displayed. It is respectfully submitted that no prior art references of record explicitly disclose or fairly suggest the foregoing either alone or in combination.

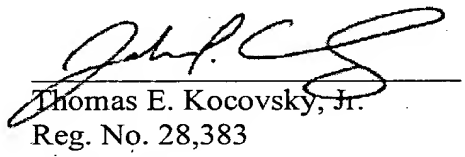
CONCLUSION

For the reasons set forth above, it is submitted that all the claims remaining in the application distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he is requested to telephone the below signed at (216) 861-5582.

Respectfully submitted,

FAY, SHARPE, FAGAN,
MINNICH & McKEE, LLP



Thomas E. Kocovsky, Jr.
Reg. No. 28,383
John P. Cornely
Reg. No. 41,687
1100 Superior Avenue
Seventh Floor
Cleveland, OH 44114-2579
(216) 861-5582